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The Citizens' Bulletin of the Connecticut Department of Environmental Protection

Roses Along the Trailside

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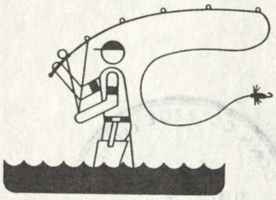

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Cover by Michael D. Klein

Commissioner
Leslie Carothers
Director Info & Ed
William Delaney
Editor
Robert Paier
Contributing Editor
Alan Levere
Graphics
Rosemary Gutbrod
Composition
Caryn Furbush
Circulation
Olive Tyghter
Business Manager
Donna Fadoir

Phone
566-5524

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Editor's Note

One of the most terrifying concepts in environmental thinking, perhaps in any kind of thinking, is extinction – ceasing to be, forever. In this century, we have witnessed the extinction of many species of plants and animals, and much of that can be traced to human causes. We have lost not just individuals, but whole classes of individuals. We will never see them again. In that is great sadness.

But, isn't it the great painful truth of this world that whatever comes into existence must, of absolute necessity, so go out of existence? Isn't it true that every birth must, of necessity, be followed by a death? Isn't it true that every species, every *thing*, must one day meet extinction? Isn't that the way things are?

And it's not only species, but it's you and me, it's the mountains, the trees, the stars. We live on a lovely, miraculous, irreplaceable planet. But, no matter what we do, the planet won't be around forever. The Milky Way exists in finite time. The galaxy itself is moving toward inevitable extinction.

There is nothing we can do to halt the process of extinction. It will come. But, I think correct environmental thinking, the correct environmental approach to this, is not to deny what must happen, but to understand that our miraculous relationship with the earth, with the stars, with other creatures, is a wonderful gift that we keep for just a short time. So what we do then is keep this relationship with responsibility, respect, and dignity, and then, finally, we must let go. That way, when extinction occurs, as it will, there will be sadness and loss, but there will also be an affirmation of the great unity and harmony of all things. I think that's a sane and reasonable way to look at extinction. R.P.

Fisher in a den tree. Fisher were present in Connecticut during Colonial times, but were gone by the 1870's. Now, they may be coming back. (Photos: Leonard Lee Rue)

The Return of the Fisher

by

Paul Rego

Wildife Biologist

Bureau of Wildlife

WILDLIFE BIOLOGISTS are seeking confirmation of the birth of the first fisher kits born in northwestern Connecticut in more than 100 years as part of a new project aimed at restoring this protected member of the weasel family to Connecticut's woods.

The project is now under way, according to biologists from DEP's Wildlife Bureau. Fisher were present in Connecticut during Colonial times but, due to loss of suitable habitat and over-exploitation, were absent by the 1870s.

Funding for this program was generated from the shipment of native

The fisher project is designed to increase the natural diversity that has been reduced by human impact.

wild turkeys to Maine in early 1988 in support of that state's turkey restoration program. In return, Maine donated funds to the Wildlife Bureau's fisher restoration project.

Typical of weasels, fisher are long and thin. Males weigh eight to 10 pounds, and females weigh four to six pounds. Their coloration is dark brown to black and the fur is long, especially on their bushy tails. Their diets include mice, voles, fruits, rabbits or hares, mast (primarily beechnuts), squirrels and carrion. In addition, fisher are among the few predators that regularly prey on porcupines, although the importance of porcupines in their diet has probably been over-emphasized. Fisher avoid habitats without overhead cover, such as fields and pure hardwood forest stands, preferring forests with a component of softwoods. Because fisher seldom travel in open areas and tend to be nocturnal, they are rarely seen by humans.

Biologists in the DEP's Wildlife Bureau are attempting to reestablish fisher in the northwestern region of the state where the regrowth of forests has made the area once again suitable for this species. Comparable long-term habitat changes have occurred in northeastern Connecticut. Fisher appear to be slowly recolonizing that Connecticut border region through expansion from Massachusetts populations. A similar recolonization into northwestern Connecticut is unlikely to occur because the region is not near any established fisher populations. Further, if the budding population in northeastern Connecticut becomes established, its westward expansion will be blocked by the Connecticut River and surrounding developed and agricultural land.

THE DEP WILDLIFE BUREAU, working with the New Hampshire Fish and Game Department, the Vermont Fish and Wildlife Department, and cooperating trappers in both states, obtained 11 fisher late in 1988. The fisher were held separately in large holding pens, complete with nest boxes, for a period of nearly three months. While in captivity, the fisher were fed a diet of high protein dog food, beaver, and deer meat. Wildlife Bureau biologists and veterinarians from The University of Connecticu gathered data on sex and age and monitored weight changes. They immobilized the fisher in order to attach radio transmitters and administer antibiotics and distemper vaccine.

"The distemper vaccination is an important precaution because of the high prevalence of distemper in certain Connecticut mammal species," stressed Dr. Nielsen, veterinarian and director of the Northwestern Research Center for Wildlife Diseases. According to Dr. Nielsen, "A special killed virus vaccine, obtained from Cornell University, was used because we cannot use the standard live virus vaccine in wild furbearers as it has only been proven safe for domestic dogs and domestic ferrets."

All 11 fisher, seven females and four males, were determined to be in excellent health. Prior to their release in March, the fisher and their holding pens were moved to a state forest in northwestern Connecticut. The fisher were held at the release site to acclimate them to the area. The March release was timed to be close to the denning and breeding periods. It was hoped that denning behavior would decrease dispersal distances and increase the opportunity for breeding. The actual release was passive. The holding pen doors were opened during the day (when fisher typically remained in their nest boxes) allowing the fisher to venture out from the pens at their leisure. In fact, several remained in their pens for two to three days, temporarily disregarding the open exit.

ALTHOUGH FISHER have been successfully reintroduced in a number of states, no previous reintroduction projects have held animals for an extended period prior to release or used telemetry to monitor progress. Biologists and resource assistants are radio tracking the fisher with receivers and vehicle-mounted antennas.

The radio transmitters allow biologists to follow the fishers' movements, activity, and, ultimately, their survival and the success of the reintroduction. So far, all the fisher have survived and all remain within a 15 mile radius of the release site. The telemetry work has already revealed early success of the program with strong evidence that some females are rearing young. If confirmed, these may be the first fisher kits born in northwestern Connecticut in more than 100 years.

If the project is successful, viable, self-sustaining populations of this native mammal will once again occur in both northeastern and northwestern Connecticut, increasing the natural diversity of Connecticut's wildlife resources, reduced in the past by man's impact on the environment.

Anyone sighting a fisher, black bear, or bobcat is urged to report the information to the Wildlife Bureau's Sessions Woods Office, P.O. Box 1238, Burlington 06013. Telephone: 584-9830. ■

Connecticut's fisher population is being tracked by radio transmitters.

Connecticut residents can take advantage of Free Fishing Day in June. Bring the kids. (*DEP file photo*)

A Few Suggestions for Connecticut's Free Fishing Day

GOVERNOR William A. O'Neill has designated June 4 through June 10 as Connecticut Fishing Week, and Saturday, June 10, as Free Fishing Day. During that week, two of the DEP's fish hatcheries -- Quinebaug Valley and Burlington -- will be open to the public. Hours are from 10 a.m. to 3:30 p.m. A tour of either of these facilities offers a fascinating insight into Connecticut's sport fishing.

The DEP's Bureau of Fisheries is encourages all potential fisherman and women to give the sport a try on Free Fishing Day. Close to 40 of Connecticut's state parks offer easy-to-find places where you can do some good fishing. For further information on these events, please phone 566-4477.

WHERE ARE THE BEST SPOTS to fish? On the eastern side of the state, DEP Fisheries Biologist Brian Murphy suggests:

Chatfield Hollow State Park on Route 80 in Killingworth. It offers the pleasant Schreeder Pond, stocked with trout; a picnic area, where you could dine on your catch; plus additional attractions like swimming and hiking.

Day Pond State Park in Colchester is regularly stocked with trout and offers additions or alternatives like swimming and picnicking.

Gay City State Park on Route 85 in Hebron is set on the site of an abandoned 18th century mill village, and its pond also offers good trout fishing.

Bigelow Hollow State Park on Route 197 in Union provides access to two popular trout ponds, Bigelow Pond and Lake Mashapaug. The pond at **Hopeville Pond State Park**, on Route 201 east of Jewett City, is a former woolen mill pond which offers good largemouth bass fishing.

Fisheries Biologist Tim Barry suggests a variety of fishing sites in state parks on the western side of the state. Among them:

Housatonic Meadows State Park on Route 7 in Sharon. Located along the Housatonic River trout management area, the park offers lots of access and excellent trout and smallmouth bass fishing. A two-mile stretch is limited to fly fishing, and all trout must be released unharmed in this area. The park includes 102 campsites.

Mount Tom State Park, in Litchfield off Route 202, is known for its hikes but also offers very good trout and largemouth bass fishing in Mount Tom Pond.

Lake Waramaug State Park, on Route 478 in Kent, offers very good warm water fishing – including largemouth bass, pickerel, yellow perch, and sunfish.

Kettletown State Park, on the east shore of Lake Zoar five miles south of Southbury, offers excellent white perch, yellow perch, and largemouth bass fishing (as well as 80 campsites).

Stratton Brook State Park on Route 305 in Simsbury is a spot where you can try either or both stream and pond fishing for trout.

Wharton Brook State Park, Wallingford, and **Sleeping Giant State Park,** on the Mill River in Hamden, both offer good trout fishing.

Indian Well State Park, Route 110 in Shelton, is on the west bank of the lower Housatonic and offers a variety of both salt water and fresh water species.

Squantz Pond State Park, on Lake Candlewood in New Fairfield, provides excellent fishing for trout, bass, and panfish.

For the newly revised, complete guide, *Connecticut State Parks and Recreation Areas*, or for the *Guide to State Boat Launch Areas*, which includes a key to fish species available, write: Office of State Parks and Recreation, DEP, State Office Building, Hartford, CT 06106. ■

Urban Forestry Conference

Arbor Day, celebrated in Connecticut on April 28, focuses much needed attention on our urban trees and forests for at least one day of the year. But urban trees need care and maintenance throughout the year. The larger mosaic of trees and forests that surround our communities needs well-planned, long term management to remain healthy and to continue providing a wide range of benefits.

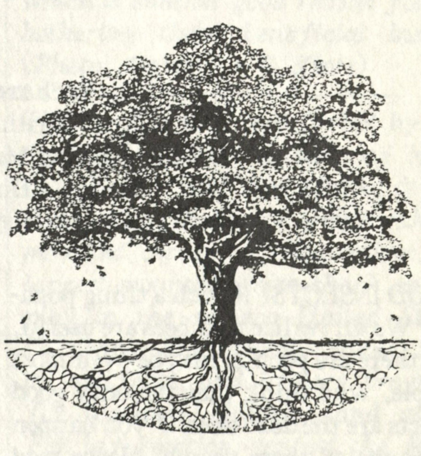
On June 6 the Cooperative Extension Service is co-sponsoring a conference at the Hawthorne Inn in Berlin, entitled: *The Forest on Main Street: Managing Urban Forests to Improve Communities.* An impressive list of speakers including Leslie Carothers, commissioner of the DEP; Dr. William Smith, professor at the Yale School of Forestry and Environmental Studies; Gary Moll from the American Forestry Association; Jeffrey Campbell from the Cooperative Extension Service; and John Brodeur, city forester in Hartford, will focus on the benefits and principles, the why and how, of urban forest management. The registration fee for the conference is $25.00 per person and covers a buffet luncheon as well as a packet of educational and instructional materials.

The conference promises to be of interest to anyone concerned with the health and care of community forests, including municipal decision-makers, tree wardens, foresters, arborists, conservation groups, and community members. Those who attend the conference will be informed of the health of Connecticut's urban forests; understand the benefits that urban forests provide; be familiar with legal issues; and be equipped to begin managing your community's urban forest.

The conference is cosponsored by the Connecticut DEP's Bureau of Forestry, The University of Connecticut Department of Natural Resources Management and Engineering, the Connecticut Forest and Park Association, and the Connecticut Council of Municipalities.

The Forest on Main Street conference is part of an interagency initiative to help communities manage their urban forests, spearheaded by the Cooperative Extension Service. A fact sheet series called the Urban and Community Forest File has been developed along with educational materials, audio-visual presentations and a library of reference materials on urban and community forestry. In cooperation with the Bureau of Forestry, the Department of Natural Resources Management and Engineering at the University of Connecticut, and the city of Middletown, a model pilot program in urban forest resource management is under way.

For more information, contact Jeffrey Campbell, Community Development Natural Resources Educator in Residence at (203) 241-4949.



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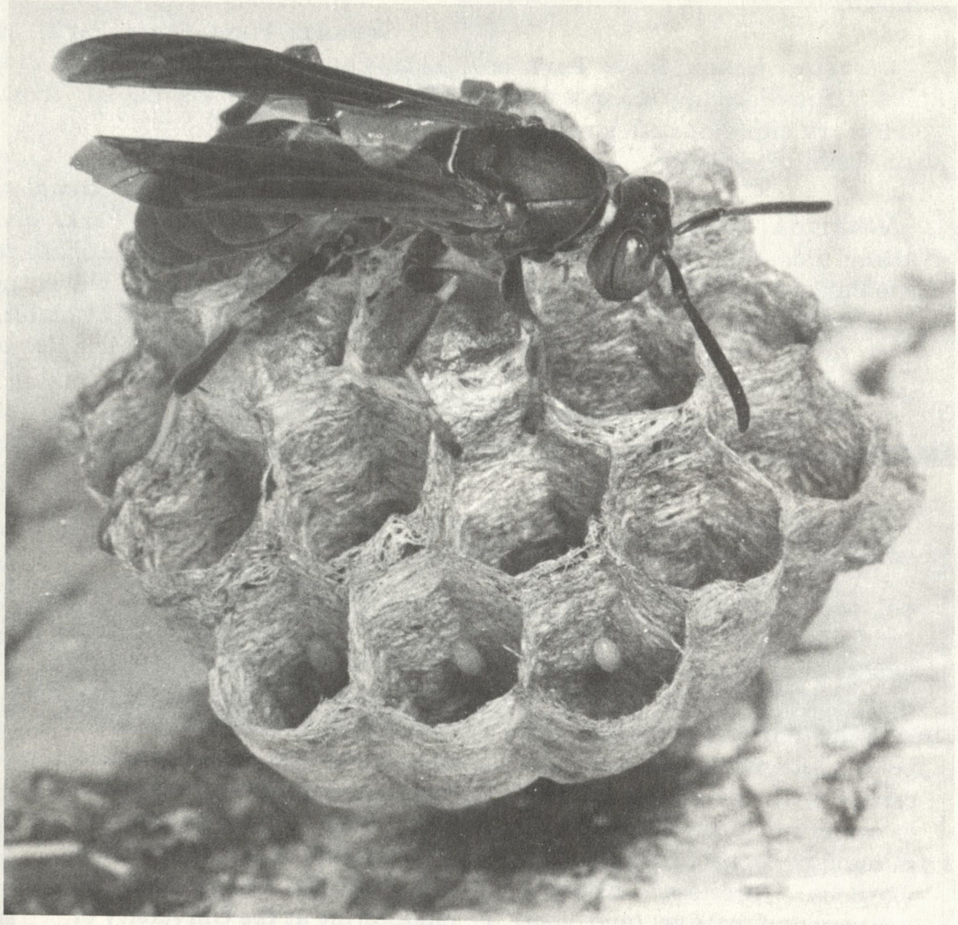
The Natural Historian



Paper wasps (Polistes) *nest frequently on houses in Connecticut. Their food is primarily caterpillars, flies, and other small insects.* (*Photo: Carl W. Rettenmeyer*)

Good Guys of the Insect World

by
Richard Gechter
Writing Intern
Connecticut Museum of Natural History
The University of Connecticut

GOOD INSECTS? Is such a thing possible? We all realize that bees are useful, but there are people, maybe even most people, who think that the only good insects are the dead ones. If you happen to be one of those people, please read on. There are some interesting things about insects which may surprise you.

Indeed, insects are frequently pests and sometimes even cause for alarm. They damage food crops and carry life-threatening diseases. Although such incidents are very rare, allergic reactions to stings may cause human deaths.

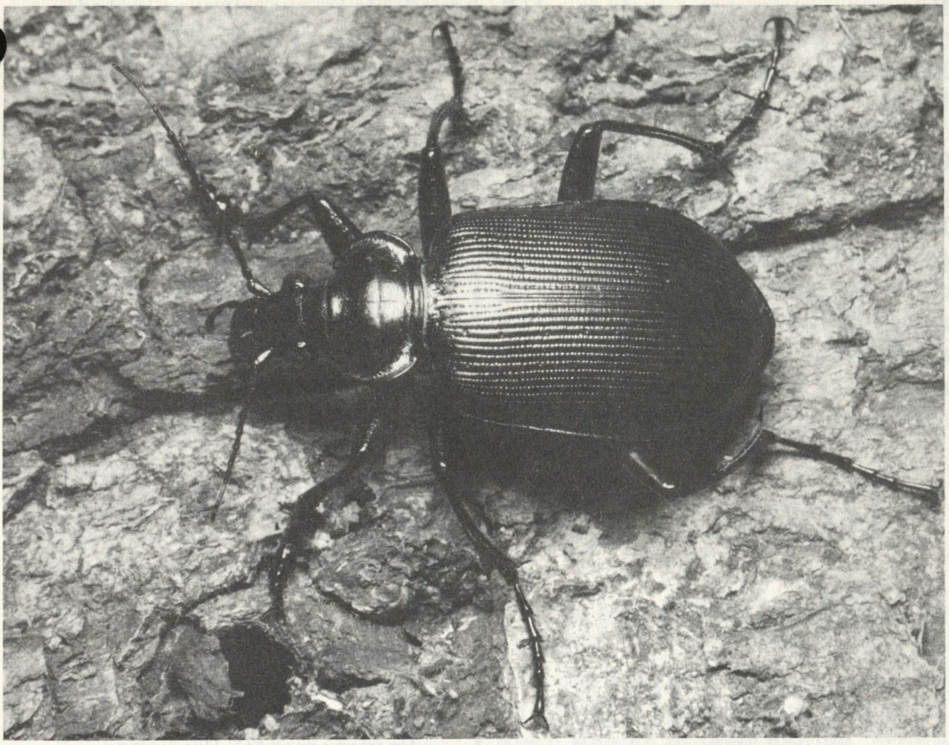
Yet insects are also important for human survival. For example, bee pollinate the flowers that produc fruit and vegetables, a task that would be impossible without insect help. While everyone knows that bees produce honey, bees are most important to man because they pollinate fruit crops such as oranges, apples, peaches, and raspberries; these plants are completely dependent on bees to set fruit.

The best known bee is, of course, the honey bee, a non-native species brought to North and South America by Europeans. Although the honey bee is the most important insect pollinator, there are about 20,000 other kinds of bees in the world which also pollinate plants. These bees include many species which are solitary, meaning that they do not live in colonies or hives as does the honey bee. Most solitary bees live in burrows in the ground. They are frequently found nesting in bare patches in lawns in Connecticut. Some are called sweat bees because they land on your body t lick perspiration. They will not sting you unless you pinch them, and sweat bees have only a mild sting, even when forced to defend themselves.

OTHER BENEFICIAL INSECTS include wasps, lacewings, and beetles that devour caterpillars, flies, and plantlice and prevent them from destroying major food crops.

"Many beneficial insects are those that we don't often recognize, such as wasps that feed upon the European corn-borer," said James A. Slater, professor emeritus of ecology and evolutionary biology at The University of Connecticut. "Were it not for parasitic wasps, there would be much more damage to food crops than there is," said Slater. A commonly-encountered wasp is the paper wasp which nests on so many Connecticut homes, or yellowjackets which frequently nest underground in our state.

Those large wasps are called "social" because they live in colonies of a few individuals to many hundred. "All social wasps eat insects, and one



This ground beetle (Calsosoma scrutator) *is often called a caterpillar hunter because that is its chief food. (Photo: Alexander B. Klots)*

colony can consume tens of thousands of caterpillars and flies in a single season," said Carl W. Rettenmayer, director of The Connecticut State Museum of Natural History at UConn.

Although social wasps kill many pest species of insects, they are much less important for insect control than their nonsocial relatives. The social wasps comprise less than one percent of all species of wasps. There are 80,000 different kinds of wasps, and most of them are parasites on other kinds of insects. Many of these wasps are so tiny that they can live on the eggs of other insects, such as the parasite of the eggs of the gypsy moth. Many millions of gypsy moth eggs never hatch in Connecticut, thanks to these microscopic wasps. Unfortunately, the wasps do not find them all.

PARASITIC WASPS lay their eggs on other insects: caterpillars, aphids (more commonly known as plant lice), flies, bugs, and beetles. When the larvae hatch, they devour the host insect.

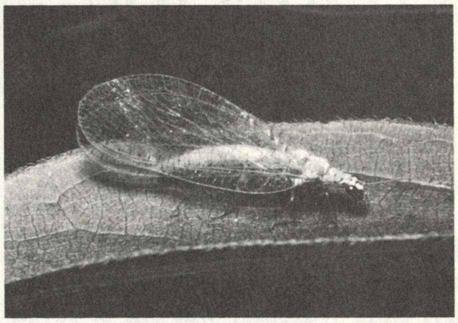
One common wasp of this type in Connecticut lays eggs in the tomato hornworm -- not a true worm but the caterpillar of a sphinx moth. When the wasp larvae complete their feeding, they spin silk cocoons on the outside of the caterpillar. These eliptical white objects on the outside of a tomato hornworm are often mistaken for eggs. Such caterpillars should not be destroyed, because you will kill dozens of parasitic wasps that otherwise would attack many additional tomato hornworms.

Termites are not appreciated here in Connecticut where they damage buildings, but in tropical rainforests more than 50 species of termites are known as "ecological recyclers." The termites help recycle nutrients from dead trees back into living plants. In some parts of the world, termites are also considered beneficial because they are food for humans.

Although not considered food in the United States, in many places insects are an important source of food. "Locusts and grasshoppers are eaten by the billions in Africa and the Middle East," according to Rettenmeyer. Also, the Mexican government is promoting the eating of ants as a valuable source of protein. Since the global population is expected to reach eight billion by the year 2,000, and famines currently devastate some nations, insects may become even more important as food for people in the future.

"Aside from economic benefits, insects such as butterflies possess an aesthetic beauty that allows people to gain increased pleasure from life," said Rettenmeyer.

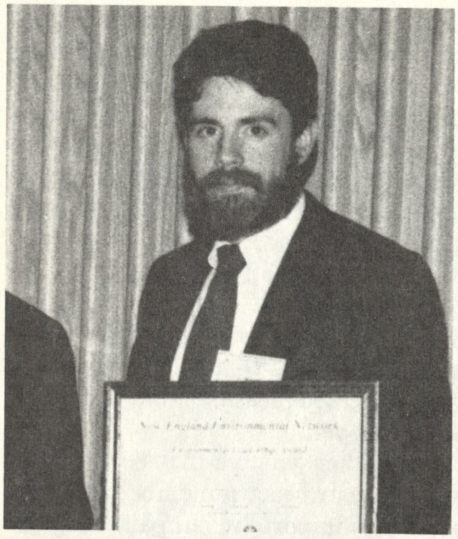
So when you see that bee buzzing around your head, remember that bees are very important, unpaid agricultural workers. If it weren't for bees, you wouldn't be able to enjoy that energizing and healthful glass of orange juice at breakfast or that delicious glass of lemonade after you've finally mowed the lawn.



In Connecticut, the most common lacewing (Chrysopa oculata) *is a predator on aphids which destroy food crops. When touched, lacewings produce a very disagreeable odor which is another good reason for not bothering these beneficial insects. (Photo: Alexander B. Klots)*

This article was contributed by The Connecticut State Museum of Natural History and The University of Connecticut in Storrs, which exhibits mounted birds of Connecticut, the largest mounted white shark on display in the eastern United States, "Videoplace" interactive video, Indian artifacts, and offers programs for teachers, children, and adults. For information, contact the Museum, UConn Box U-23, Storrs, CT 06269; phone (203) 486-4460. ■

For Your Information



Karl Wagener, director of the Council on Environmental Quality, received an award from Tufts University. (Photo courtesy Tufts University.)

Director of CEQ Honored

THE EXECUTIVE DIRECTOR of the state Council on Environmental Quality, Karl Wagener, was one of seven New England environmentalists to receive an environmental leadership award at the New England Environmental Conference held on March 18 and 19 at Tufts University.

The award honors each recipient for "outstanding environmental leadership." Wagener's award specifically noted his many contributions to environmental protection during his tenure as director of the state Council on Environmental Quality, as well as his previous work as director of the Connecticut Audubon Society's Environmental Center in Hartford.

An Environmental Leadership Award was presented by the New England Environmental Network to one environmental activist or official from each New England state. A seventh award was given to Massachusetts Governor Michael Dukakis. Previous recipients include U.S. Senators Edward Kennedy of Massachusetts and George Mitchell of Maine.

"The Council on Environmental Quality's nine members, who are appointed by the governor and the Legislature, do a lot of hard work for no pay," said Wagener, who is the Council's chief staff person. "I believe this award which I received reflects the entire Council's excellent work. It certainly is an honor to be recognized by one's peers throughout New England."

Recycling Materials Available

MATERIALS TO SUPPORT public education efforts in recycling are now available in quantity, to include:

"Connecticut Recycles" posters — 11" X 17" format listing what to separate and some of the benefits of recycling. Also printed in Spanish.

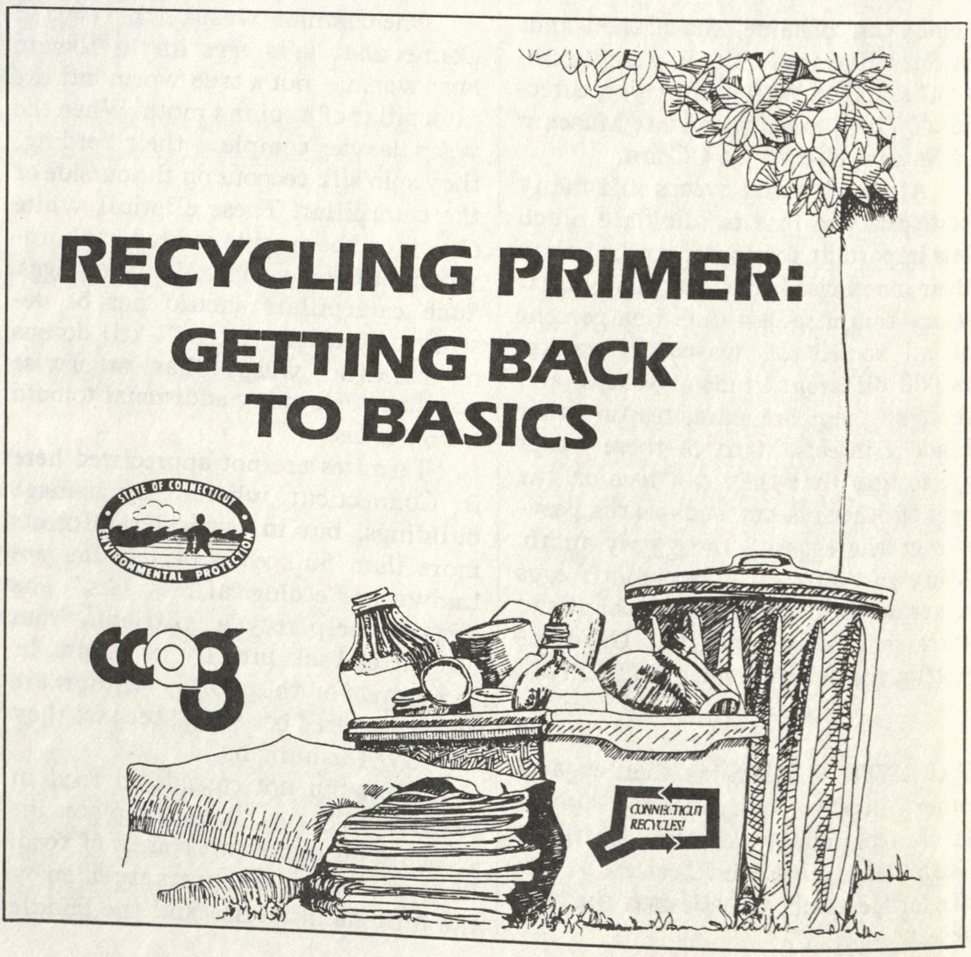
Recycling Primer: Getting Back to Basics: This is 32-page booklet describing the recycling program and how it will work in Connecticut.

" Connecticut Recycles" introductory video — 11 minutes in length — describing the recycling process, intermediate processing centers, source reduction and the benefits of recycling. VHS format.

"Connecticut Recycles" two-pocket folders with fact sheets about the state program.

To obtain these materials, please write:

Kim Marcy
Recycling Education Coordinator
Department of
Environmental Protection
165 Capitol Avenue, Room 108
Hartford, CT 06106 ■



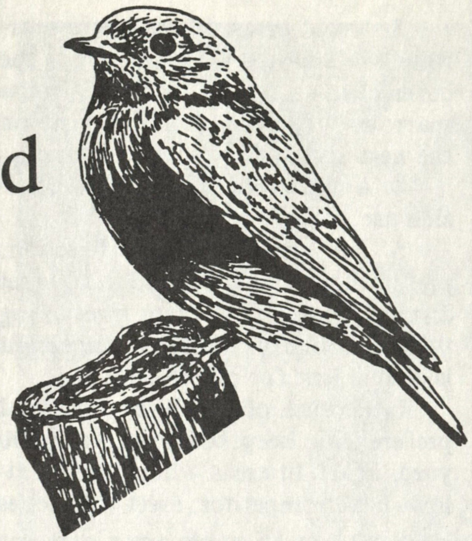
DEP Wildlife Information Series

A Home for the Bluebird

ONCE COMMON throughout Connecticut, the Eastern bluebird, one of the most loved and beneficial birds, has been declining in numbers for many years. One significant contributing factor to this decline has been the lack of suitable nesting cavities resulting from changing land use patterns and increasing urbanization. The construction of nest boxes and establishment of nest box trails in suitable habitat may help the bluebird make a comeback. Competition for nesting cavities from the introduced starlings and sparrows has also reduced the bluebird population. The proper construction and placement of nest boxes will encourage bluebirds and not these alien competitors.

BLUEBIRDS ARE SMALL, open-country birds, members of the thrush family. They have large eyes and rather slender short bills, wide at the base. They range from six to eight inches in length, with the female smaller than the male. Males may flutter the tips of their long, pointed wings after alighting, especially during the breeding season. All bluebirds have a hunched-over appearance when perched.

The Eastern bluebird is the only bluebird species found in New England; the mountain and Western bluebirds are found west of the prairie states. The male Eastern bluebird in breeding plumage has a bright blue back and a reddish-brown breast, sides, and flanks; the underparts are white. The coloration of the female is similar, although paler and more muted than that of the male. Juvenile bluebirds are grayish with brown and white spots on the back and breast; only the wings and tail show any blue.

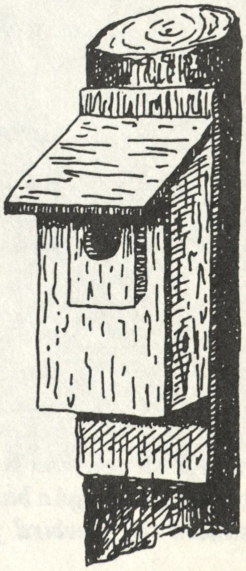


The song and call are a melodious whistling, a rising "chur chur lee chur-lee." Both sexes may sing, although male bluebirds are most often heard singing in their nesting territories early in the breeding season.

BLUEBIRDS SEARCH for natural cavities or nest boxes along the edges of woods or pastures, and in orchards, meadows, and large gardens. Hollow limbs, holes in trunks or deserted woodpecker "apartments" are used as nest sites if nest boxes are unavailable and starlings are absent. These cavities may be three to 30 feet high or more. The nest, built by the female, is composed chiefly of grass, but often contains fine rootlets, pine needles, or deer hair. The three to seven eggs are ovate to nearly oval and light blue to white in color (white eggs are rather rare). Egg dates are April 15 to late July in Connecticut. Incubation, done mostly by the female, normally takes 13 or 14 days but can take longer in cold weather. Bluebirds produce two broods yearly, and sometimes three if weather conditions are favorable and food supplies are adequate.

BIRDS of semi-open habitat, bluebirds prefer orchards, parklands, meadows, and other areas with scattered trees and short ground cover. They perch in the open, scanning the ground for their normal prey of insects or spiders. In winter, their diet changes to one of wild fruits and berries, and small flocks of bluebirds may be seen foraging along the edges of wooded swamps. Typical winter foods consist of the fruits of bayberry, honeysuckle, Virginia creeper, Eastern red cedar, and sumac.

BLUEBIRDS are sometimes infected by the parasitic blowfly (*Protocalliphora sialia*), which prefers cavity-nesting birds. The cycle of this parasite begins when the adult female blowfly enters the cavity or box while the birds are nesting and lays her eggs in the nesting material. When the eggs hatch, the larvae or maggots attach themselves to the baby birds at night and suck their blood. When gorged sufficiently, the maggots bury themselves back in the nesting material and become surrounded with a flexible membrane so that they resemble a small brown egg. This is the pupal stage. After 12 days, adult blowflies emerge from the pupal case,



or puparia, and fly away to repeat the cycle.

Ordinarily, no action against this parasite needs to be taken, but under certain conditions, control measures may be necessary to save the brood.

Nest Box Trail Information

DR. LAWRENCE AELENY, founder of the North American Bluebird Society, offers the following tips for establishing and maintaining a bluebird nest box trail:

1. Select good habitat. Open rural country and low or sparse ground cover and scattered trees in best. Pastures, large lawns, golf courses, parks, and cemeteries are all good sites for nest box trails. Bad habitat selection often results in more house sparrows, not bluebirds.

2. Avoid brushy and heavily wooded areas. This is the domain of the house wren.

3. Avoid areas where house sparrows are abundant. Do not place the boxes close to houses or barns. House sparrows will kill female bluebirds on the nest and destroy eggs and young.

4. Avoid areas of extensive pesticide use.

5. Face boxes in any direction, preferably toward a tree 40 to 100 feet distant, and away from prevailing wind. A roughly circular arrangement is convenient for monitoring.

6. Because of bluebird territorial preferences, keep boxes at least 100 yards apart. In areas where tree swallows are a competitor, erect two boxes ideally 10 to 15 yards apart and not more than 25 to 30 feet apart.

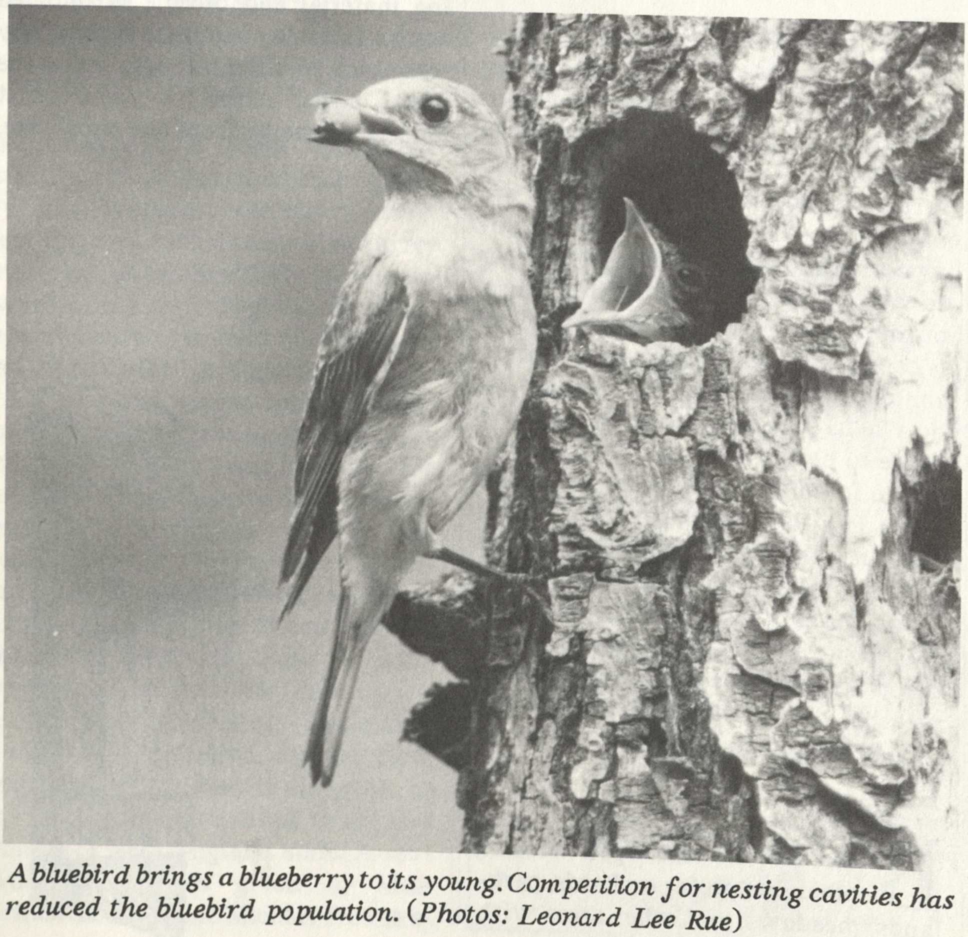
7. Protect boxes against snakes, raccoons and other predators when necessary. Predator guards should be mounted over the entrance hole for boxes located in areas with heavy raccoon populations.

8. Monitor the boxes about once a week during the nesting season, if possible.

9. Always remove house sparrow nests immediately when found. Remove bluebird and other nests as soon as the young birds have fledged in order to encourage second or third broods.

10. Inspect boxes in early fall and late winter; clean and repair if necessary. Bluebirds will not nest in a box that has an old nest in it.

New boxes and trails should be established, and older boxes cleaned out, by early March (ideally March 1) in Connecticut, prior to the start of the bluebird nesting season. However, boxes may be put up at any time of the year, since bluebirds have more than one brood a year.



A bluebird brings a blueberry to its young. Competition for nesting cavities has reduced the bluebird population. (*Photos: Leonard Lee Rue*)

What Else Can You Do to Help the Bluebird?

1. Learn to recognize the nest and eggs of the house sparrow, so you can remove them from your nest box. House sparrow nests, eggs, adults and young are not protected by law and may be legally removed or destroyed.

A house sparrow nest is very sloppy, made chiefly of coarse grass, rootlets, leaves and straw, which fill the cavity. It often has a domed roof when built in a birdhouse and may vary in size. The three to seven eggs are oval, white to greenish-white and speckled with brown.

2. Plant trees and shrubs that will provide winter food for bluebirds. Some examples are: American holly, autumn olive, red-osier dogwood, mountain ash, Washington hawthorn, gray dogwood, milky dogwood, and flowering dogwood.

3. If nesting bluebirds are harassed or driven off by tree swallows, quickly set up a second box approximately 20 to 25 feet from the first. A tree swallow pair will select one box for nesting and defend the other box against use by other swallows, allowing the bluebirds to claim it. This strategy of using paired boxes makes it possible to encourage nesting of both bluebirds and swallows.

Bluebird Nest Box Plans and Instructions

A BLUEBIRD NEST BOX, designed and approved by the North American Bluebird Society, is illustrated in Figure 1. Designed to meet the needs of the bluebird and last over time, the box can be easily constructed with hand tools and a minimum of materials.

Illustrated in Figure 2 is a bluebird nest box designed and used by the Connecticut Bluebird Working Group. This box is easier to mount and includes the predator guard.

It is best not to stain or paint the boxes but, if desired, they can be painted with a latex exterior paint or stain in a light shade of brown or gray. *Do not* paint the box interior.

Boxes should be mounted on cedar posts, galvanized pipe and six-foot, metal garden stakes three to five feet above ground level. Flatten the tabs on the stakes to discourage raccoons. Boxes mounted on trees only encourage climbing predators.

For more information on bluebirds and detailed plans for the construction of bluebird boxes, please contact: Connecticut DEP Nonharvested Wildlife Program, Sessions Woods Wildlife Management Area, P.O. Box 1238, Burlington, CT 06013 -- (203) 584-9830; or the North American Bluebird Society, P.O. Box 6295, Silver Springs, MD 20906-0295 -- (301) 384-2798

Bluebirds produce two broods annually, three if conditions are right.

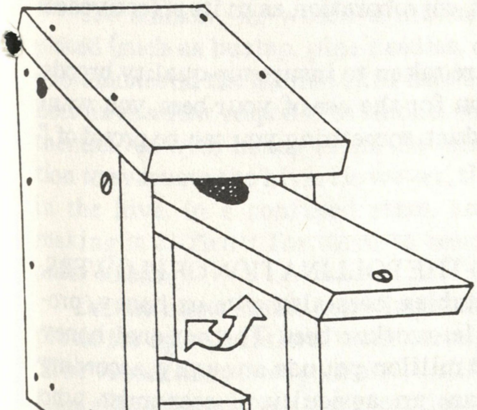


Fig. 1. Bluebird nest box designed by the North American Bluebird Society.

References and Additional Reading

Zeleny, L. 1976. *The bluebird: how you can help its fight for survival.* Indiana University Press, Bloomington. 170 pp.

Harrison, H.H. 1975. *A field guide to birds' nests found east of the Mississippi River.* Houghton Mifflin Co., Boston.

The Technical Assistance Information Series is 75 percent funded by Federal Aid to Wildlife Restoration -- the Pittman-Robertson (P-R) Program. The P-R Program provides funding through an excise tax on the sale of sporting firearms, ammunition, and archery equipment. The remaining 25 percent of the funding is matched by the Connecticut Wildlife Bureau. ■

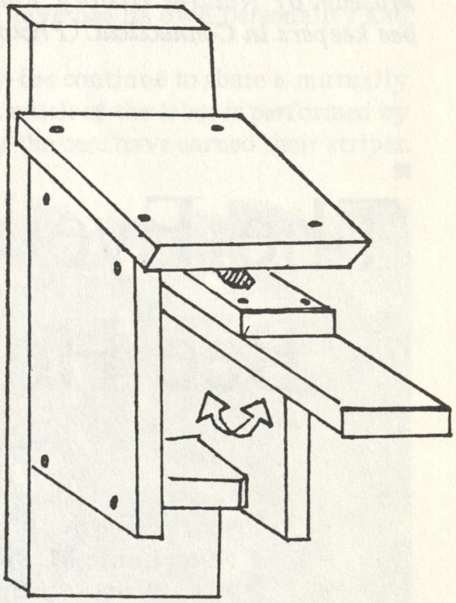
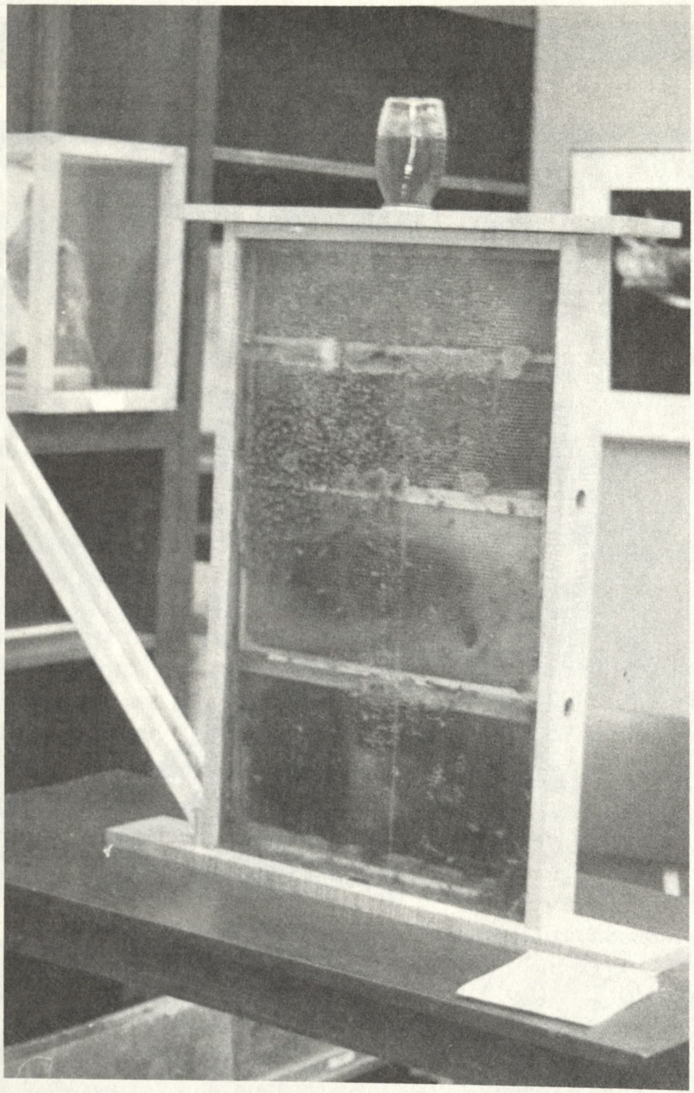


Fig. 2. Bluebird nest box designed by the Connecticut Bluebird Working Group.



A live honey bee hive at The University of Connecticut's Museum of Natural History. There are about 500-700 bee keepers in Connecticut. (*Photos: Tanya Green*)

The Eye of the Bee Holder

by
Stephanie M. Speziali
Writing Intern
Department of English
The University of Connecticut

OF THE MORE THAN 20,000 SPECIES of bees worldwide, only four species of true honey-bees are known, and all of these are native to tropical southeastern Asia. However, the domesticated honey-bee (*Apis mellifera*)has been universally distributed by humans.

In 1985, there was a total of 211,700 beekeepers nationally registered; 1,700 of these were commercial apiculturalists, who owned slightly less than half of the 4.2 million honey-bee colonies.

George Schuessler is the deputy state entomologist at the New Haven Agricultural Experimental Station. Schuessler said that 550-700 beekeepers register about 1650 colonies annually, comprising one third of the actual number of beekeepers and colonies believed to exist in Connecticut.

"Commercial beekeepers in the state are few and far between. Most are hobbyists," said Charles Howe, president of the Connecticut Beekeepers Association. But, whether for commercial purposes or as a hobby, the nagging question remains -- why would anyone want to keep bees?

THE ECONOMIC SIGNIFICANCE of domestic bees lies not only in the advantages brought by their prized honey and wax; the bees also play an invaluable role in the pollination of wild and cultivated plants.

Both commercial and hobbyist beekeepers lease their broods to pollinate crops, orchards, and gardens that wild bees alone cannot pollinate as widely or effectively.

Several weeks before the first seasonal blossoms appear, an apiculturalist is as busy as a bee. Honey and pollen, respectively produced and collected by the bees, are their natural food sources. These, or substitutes such as sugar-water and wheat, are added to the hives. Hives are divided when the colony has grown excessively large. Diseased bees are medicated.

The most common disease suffered by bees in Connecticut is "chalkbrood," believed to be a deficiency in sodium chloride. As a treatment, bees are sometimes fed salt water. However, corroboration as to its effectiveness is lacking.

Such measures are taken to insure top quality broods. "If a farmer pays you for the use of your bees, you want to put out a good product, something you can be proud of," says Howe.

IN ADDITION TO THE POLLINATION OF FLOWERS, fruits, and vegetables, bees also give us honey, produced only by female, worker bees. The national honey demand is about 250 million pounds annually, according to Harry A. Sullivan, an agricultural economist who studies honey consumption for the U.S. Department of Agriculture. Over 200 varieties of honey are produced in this country alone, each distinct in flavor, color, and body. Clover honey is the most popular among Americans. Honey is considered by many to be more flavorful than refined sugar. A hygroscopic (moisture-retaining) substance, honey is able to draw and retain moisture from the air. Therefore, baked goods made with honey are moister.

ANOTHER VALUABLE BEE-PRODUCT is wax. Worker bees secrete wax to build hexagonal-celled honeycombs within the hive. Beeswax, an excellent waterproofing agent, was used in World War II to coat ammunition and metal equipment, preventing oxidation. Today, beeswax is a key ingredient in wood finishes. Also, the cosmetic industry widely employs this hypoallergenic substance. Candlemaking is another major market for beeswax, which is a necessary additive in retaining the fragrances in scented candles.

Apiculture is a lucrative industry for commercial beekeepers. In California, for example, beekeeping generated $26.9 million in 1987. In contrast, money invested and profits generated are generally equal each year for hobbyists in Connecticut.

BEEKEEPING, HOWEVER, can sometimes be a sticky business. Various losses are incurred. In addition to disease, losses of bees are sometimes attributed to insecticides. In the northwest part of Connecticut, bears have become a factor in the bee-keeping equation. Bears not only destroy orchards, but are also capable of consuming a hive per night while making a beeline for the honey pot.

The natural defense mechanism of the bee is another fly in the ointment. Bees sting for two reasons: to protect the hive and to protect themselves.

Most beekeepers utilize protective equipment to guard against stings while handling bees. A bee veil, gloves, and a suit banded at the wrists and ankles protect the body. Helpful tools are the hive tool and the smoker.

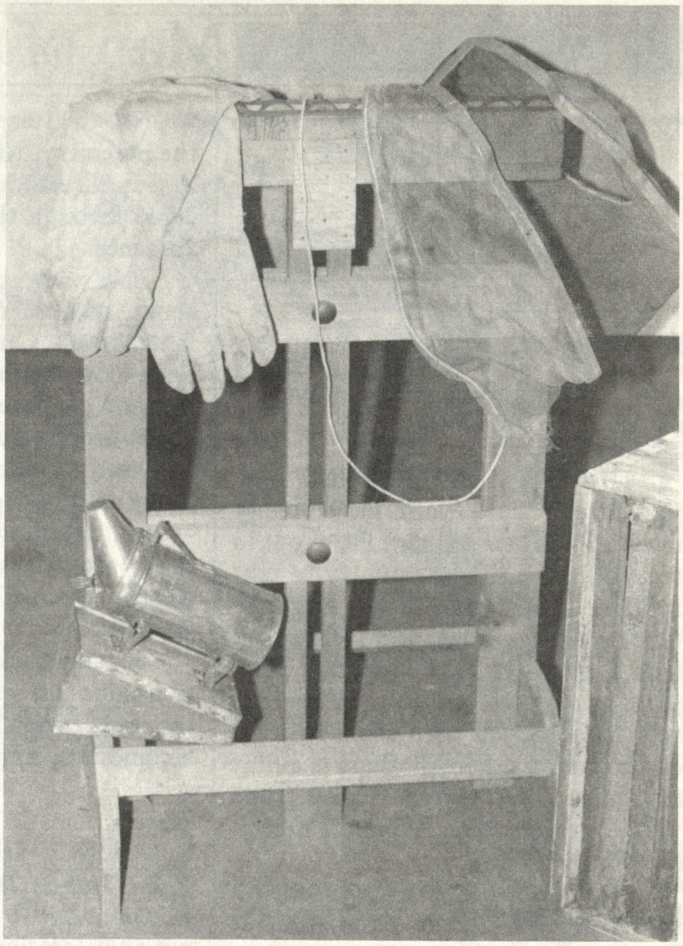
Sharpened at both ends, the "L" shaped hive tool assists in prying open hives whose crevices have been effectively sealed up by the bees.

The smoker, in which a material that smolders is placed (such as burlap, pine needles, or tree bark), masks pheromones on the human skin that bees can easily detect. Bees have a fear response to smoke, causing them to gorge themselves with honey from the combs, as if in preparation to evacuate the hive. However, the bees remain abuzz in the hive, in a confused state, and with full bodies making it difficult for them to bend their abdomens in order to sting.

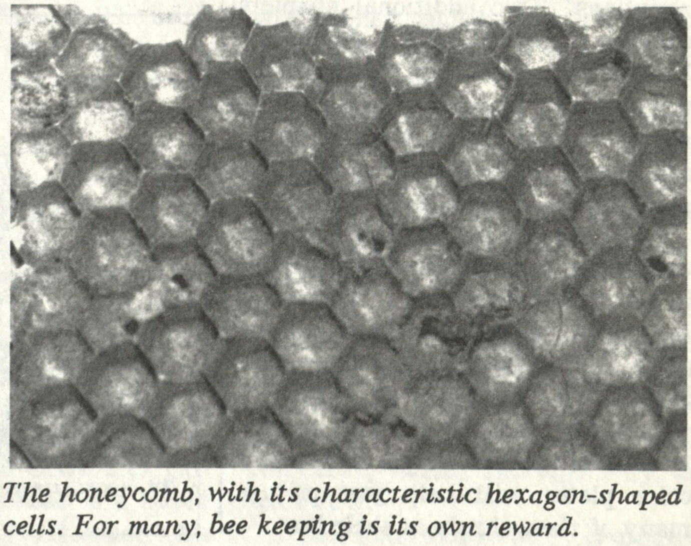
On the other hand, bee stings can actually be therapeutic for apiculturalists with certain types of arthritis. "The venom alleviates pain and, unlike some drugs, is free from side effects, with the exception of a possible allergic reaction," relates Howe.

For many, beekeeping is its own reward. According to Howe, apiculture is a means of achieving self-sufficiency. It is convenient in the sense that only six square feet of land is needed for each hive. "Moreover, it is enjoyable to work with the bees, care for the hives, and observe their behavior," Howe states enthusiastically. "In a sense, the bees are like pets; each hive has its own personality and identity."

Man and the honey-bee continue to share a mutually beneficial alliance. But much of the labor is performed by the bees. You might say the bees have earned their stripes. ■



If you decide to get into bee keeping, you might consider investing in some of the items pictured here: gloves, bee veil, and smoker.



The honeycomb, with its characteristic hexagon-shaped cells. For many, bee keeping is its own reward.

Map of the Month

Our Native Shrubs

by
Alan Levere
Senior Environmental Analyst

I THINK IT IS INTERESTING how the one word 'yard' has so many meanings. When you say: I'll be out in the *yard*, you might actually be taking care of the lawn. Or you might be tending to the garden, and there might be a need to review how this *yard* looks as a whole. Maybe there's a bare spot here, or you need some fullness and color over there. If there is a hint of landscaping in your springtime yard work, read on. We have a book for you.

Native Shrubs for Landscaping is the product of the Arboretum at Connecticut College in New London. The Arboretum has produced this colorful 40-page book to help us understand the use of our state's own assets in creating the landscaping we desire. Native shrubs offer color, fragrance, and diversity, and tend to be resistant to most insects and diseases.

The key chapters in the book are: 'Basic Landscape Design Principles,' 'Planting and Care,' 'How to Obtain Native Shrubs,' and 'Native Shrub Descriptions.' Two additional chapters combine to reveal which shrubs are best for dry, moist, and shaded conditions; which bloom in spring, summer, or boast autumn color; and which are best for ground cover, low, medium, high growth.

But the plant descriptions make the book so valuable. Fifty-two shrubs in all are discussed, and that does not include the many varieties of any one of them. (For instance, there are four azaleas, three dogwoods, and six viburnums, and that accounts for only three of the 52 descriptions.) The 33 color plates will help you picture many of these shrubs at their best.

Not the least of all the chapters is the necessary 'Nursery Source List for Native Shrubs.' Many shrubs can be ordered through the mail for your convenience.

In a way, it seems odd to think about the use of native shrubs for landscaping. Certainly we have seen some local shrubs that are vibrant and full and yet before now there has been little information available to coordinate our planning. But now, with so many options depicted in this one book -- the full range of planting conditions, growth heights and flowering color -- we really have something to grow with.

So, step back, exotics. There is native color and variety galore that is at the ready when landscaping the 'yard' becomes a springtime reality.

SINCE THE SPRING TIME offers us the chance to get out and go, the *DEP Property Map* responds with the location of over 500 places to get out and go to.

The DEP has inventoried and mapped all the DEP-owned lands to not only understand more clearly what we have, but where these properties are, how they are distributed across the state, and what type of properties they are.

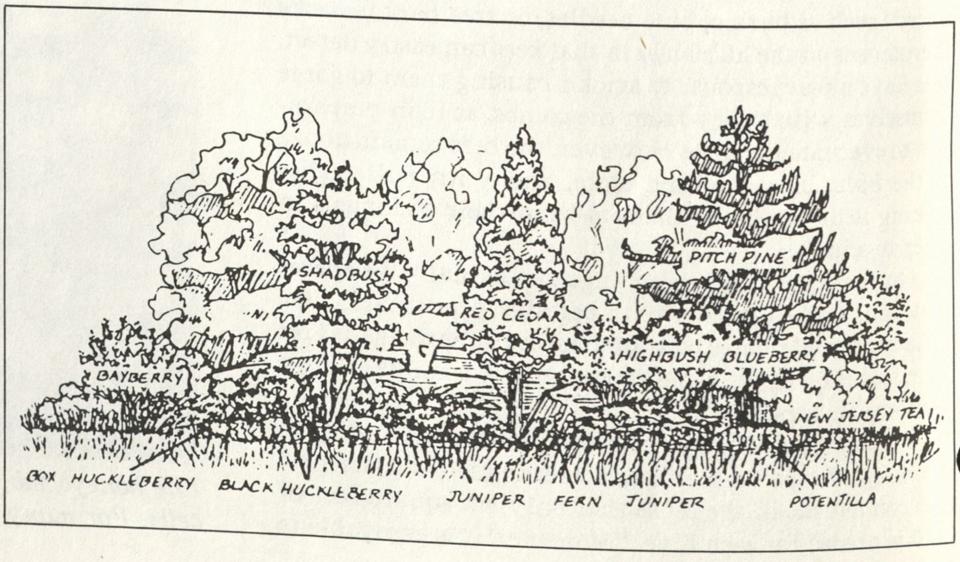
Conveniently, the map is color-coded to indicate the seven different types of areas: state parks and trails, wildlife management areas, department water bodies (lakes), salt wate access (public boat launches), historic and natural history preserves, state forests, and a miscellaneous category.

This means there are many options for hiking in the state forests, birdwatching in the wildlife sanctuaries, boating or fishing on the lakes and ponds, or just relaxing in the state parks. No matter where you are, you are never more than seven miles from one of the many DEP-mapped areas.

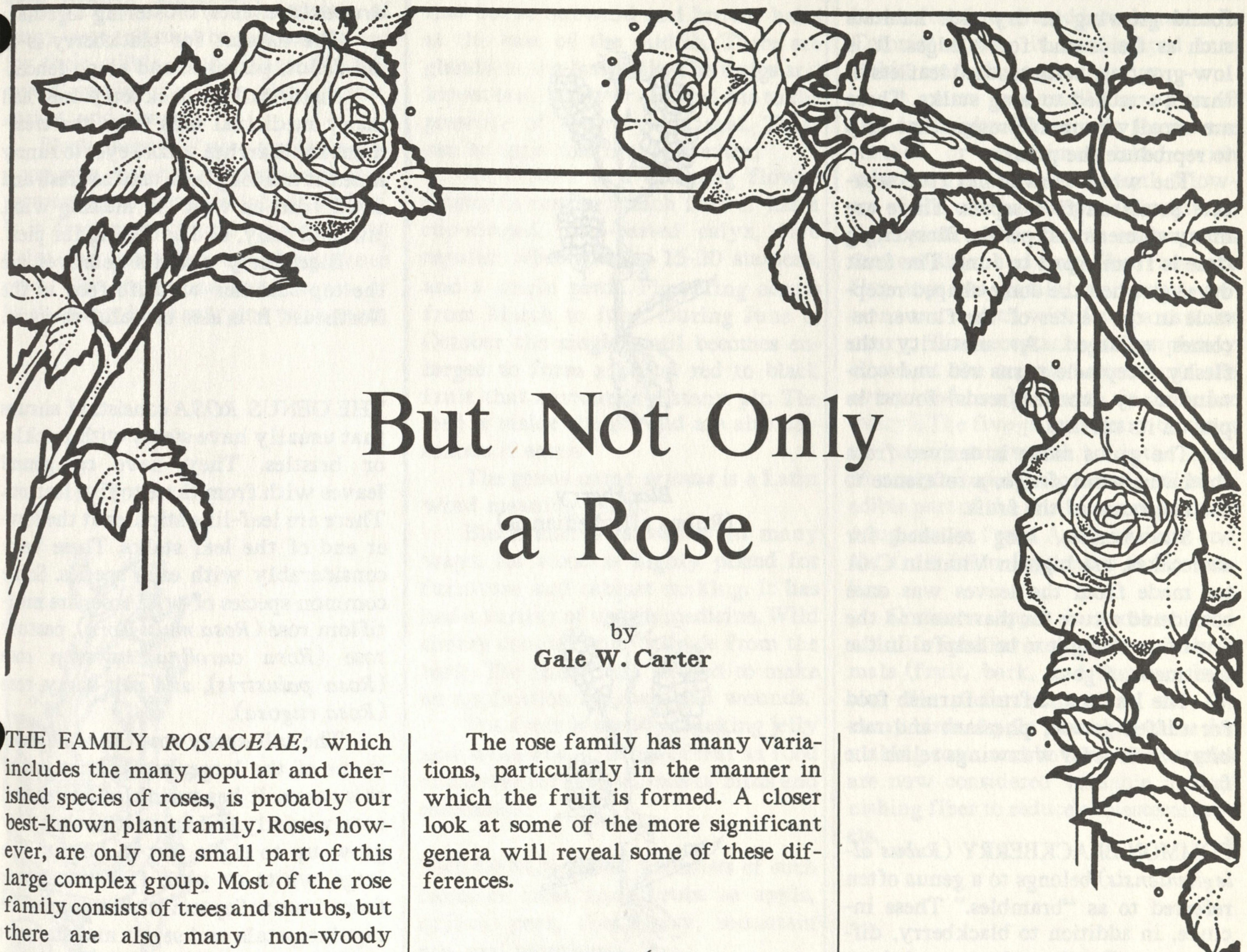
The *DEP Property* map, printed in 1988, is a full-sized map on a sheet measuring 44 by 55 inches. At the scale of 1:125,000, one inch equals about two miles. In all, the 200,000 acres of DEP lands represent over 310 square miles, which really represents more 'go' than any of us probably have time for.

But knowing the options for the times we do get out is what this map is all about.

N*ATIVE SHRUBS for Landscaping* is available for $4.00 and the *DEP Property Map* is available for $7.44. If you do order, please include 7 1/2 percent sales tax and a handling charge of $2.00 per order (not per item). (If you order *only Native Shrubs* handling is $1.00). Our address is: DEP NRC, Map Sales, Room 555, 165 Capitol Avenue, Hartford, CT 06106. ■



Trailside Botanizer



But Not Only a Rose

by

Gale W. Carter

THE FAMILY *ROSACEAE,* which includes the many popular and cherished species of roses, is probably our best-known plant family. Roses, however, are only one small part of this large complex group. Most of the rose family consists of trees and shrubs, but there are also many non-woody species. The *Rosaceae* are particularly prized because so many of their members are useful as ornamentals or for their fruit-producing quality.

In general, members of the rose family are characterized by:

- Five separate sepals and petals of equal size.
- Numerous stamens and one or many pistils.
- The presence of a superior ovary in many members of this family. The ovary is considered superior when the sepals, pistils and stamens are joined to the receptacle below the ovary.
- The receptacle on which the flower parts are located is usually in the form of a cup, a saucer or a dome.

The rose family has many variations, particularly in the manner in which the fruit is formed. A closer look at some of the more significant genera will reveal some of these differences.

MEADOW-SWEET (*Spiraea Latifolia*) is a common species found in moist fields and meadows. It is a woody plant but it is often found mixed with other common wildflowers. The usual height of meadow-sweet is two to three feet. Its leaves are alternate and toothed. From July to September it produces tiny pink blossoms that appear in loose pyramidal clusters. Each flower has five sepals and five rounded petals with many stamens and several pistils. The receptacle is saucer-shaped with the flowers growing from the rim. The ovary is superior. Its fruit consists of several dry follicles that split at maturity to disperse seeds.

Flowers of this genus were used in ancient times for wreaths and garlands. The word *Spiraea* is a Greek word for "garland," reflecting this early practice.

The dried leaves steeped in water, with honey added, was a favorite drink of the colonists. It was also once used as a diuretic.

Steeplebush (*Spiraea tomentosa*) is a similar species growing in the same habitat but differing from meadow-sweet by its brown hairy stem and leaves and its tight magenta flower clusters.

FIELD STRAWBERRY (*Fragaria virginiana*) is one of the non-woody members of the rose family. Other members include the many species of cinquefoil, avens, and agrimony, to list a few.

This native strawberry is usually

found growing in dry rich habitats such as fields and forest edges. It is low-growing, with toothed leaflets in three's attached to long stalks. There are usually runners present that help to reproduce the plant.

The white flower has five separate petals on five sepals. There are many stamens and pistils. Blossoming time is from April to June. The fruit develop when the dome-shaped receptacle in the center of the flower becomes enlarged. At maturity the fleshy receptacle turns red and contains many achenes (seeds) found in pits on its surface.

The genus name is derived from the Latin word *fraga*, a reference to the fragrance of the fruit.

Strawberries, long relished for shortcakes, are high in Vitamin C. A tea made from the leaves was once considered a cure for diarrhea and the fruit was thought to be helpful in the treatment of gout.

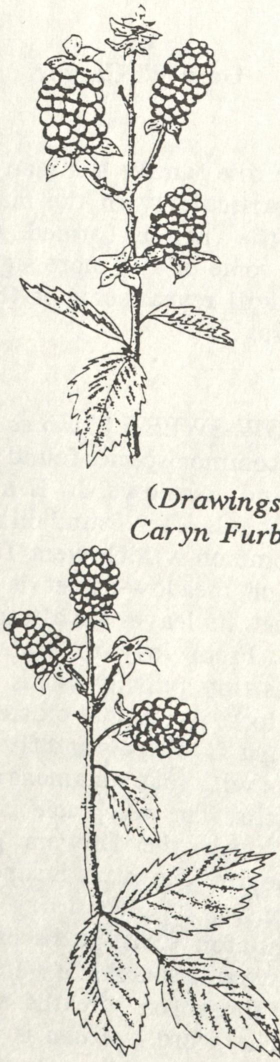
The leaves and fruit furnish food for ruffed grouse, pheasant and rabbits, while cedar waxwings relish the fruit.

COMMON BLACKBERRY (*Rubus allegheniensis*) belongs to a genus often referred to as "brambles." These include, in addition to blackberry, different species of raspberry and dewberry.

The typical blackberry plant has an arching angular stem equipped with hard prickles. Its leaves are compound, usually with five to seven leaflets that are green on both sides. Raspberries, in contrast, have leaves that are white underneath.

Flowers of blackberry are white, a characteristic of all *Rubus*, with the exception of the flowering raspberry, *Rubus odoratus*, whose flowers are pink to purple and much larger. Blackberry has five separate petals and five sepals. It has a raised receptacle in the center of the flower. There are numerous stamens and pistils. Blossoming time is from May to June. The black fruit that forms on the dome-shaped receptacle consists of many small juicy drupes (druplets) clustering together.

Blackberry
(Rubus allegheniensis)



(*Drawings by Caryn Furbush*)

The habitat for blackberry is i old fields, pastures, and along fences.

Historically, blackberry has had many medicinal uses from the treatment for diarrhea to sore eyes to runny noses. It has long been used as fresh and dried fruit as well for making wine, jam and jelly, and as filling for pies.

Blackberry and its relatives are the top summer wildlife food in the Northeast. It is also of value as cover.

THE GENUS *ROSA* consists of shrubs that usually have stems with prickles or bristles. They have compound leaves with from three to five leaflets. There are leaf-like stipules at the lower end of the leaf stalks. These vary considerably with each species. Some common species of wild roses are multiflora rose (*Rosa multiflora*), pasture rose (*Rosa carolina*), swamp rose (*Rosa palustris*), and salt-spray rose (*Rosa rugosa*).

The salt-spray rose (*Rosa rugosa* is one of the larger representatives of this genus. It has wrinkled leaves and a very bristly and hairy stem that may grow up to eight feet in height. The large white or pink flowers appear from June to September. There are five regular petals and sepals and stamens and pistils are numerous. The red fruit that forms is an enlargement of the receptacle and is called the hip. This contains many tiny achenes (seeds).

Rosa rugosa was introduced to Cape Cod from Japan as the result of a shipwreck in 1849. It thrives on sand dunes, forming dense thickets and has also spread inland.

The genus name *Rosa* is from the Latin word *Rosa* and has no translation or meaning, but it has been used to symbolize love and beauty.

Rose hips are a valuable food item for wildlife, particularly during the winter months, and their thickly grouped stems serve as food and cover for birds and mammals. The rose hips are used by man for jams and jellies, or eaten raw. They are high in Vitamin C.

THE GENUS *PRUNUS* consists of many trees and shrubs that are valued for their edible fruit. They include several species of cherry, plum, peach, apricot, and almond.

Black cherry (*Prunus serotina*) is a common member of this genus that grows as a tree up to a height of 80 feet. It is frequently found invading old fields and springing up along fence rows. The single, narrow leaves of black cherry have margins with teeth that curve outward and brown hairs at the base of the midrib. There are glands on the leafstalk. The twigs and leaves taste of bitter almond due to the presence of hydrocyanic acid. These can be toxic to animals if eaten.

Its flower is a drooping flower cluster (a raceme). Each flower has a cup-shaped, five-parted calyx, five regular white petals, 15-20 stamens, and a single pistil. Flowering occurs from March to June. During June to October the single pistil becomes enlarged to form a pulpy red to black fruit that surrounds a stony pit. The seed is inside the pit and are also poisonous if eaten.

The genus name *prunus* is a Latin word meaning plum.

Black cherry is valued in many ways. Its wood is highly prized for furniture and cabinet making. It has had a variety of uses in medicine. Wild cherry cough syrup is made from the bark. The inner bark is used to make an application for sores and wounds.

The fruit is used for making jelly and wine and it is important as food and cover for many kinds of birds and mammals.

THE GENUS *PYRUS* consists of such familiar trees and shrubs as apple, quince, pear, chokeberry, mountain ash, and hawthorn.

The common apple originally came from the Near East. It has crossed with the crabapple (*Pyrus baccata*) and has given rise to the more than 200 varieties of apples that now grow in cultivation in the United States. Since it was first introduced into America in Colonial times, it has escaped into fields, roadsides, and clearings.

It grows as a small tree up to 40 feet in height. The single leaves are toothed or sometimes lobed with white to grayish hairs beneath. Flowers of the common apple are white to light pink and are borne on branches that are short and spur-like. There are five separate petals, numerous stamens and a pistil with five parts to its ovary. The receptacle is completely closed at the top and surrounds the ovary and merges with it (inferior ovary). The five-parted ovary becomes the papery core which holds the seeds. The calyx (sepals) becomes the fleshy, edible part of the fruit (a pome). Flowering occurs from April to June and the fruit from September to November.

Common apple is another good wildlife food for both birds and mammals (fruit, bark, and browse). It is also the preferred nesting site for many birds. Apple wood has value for making tools and bowls. Also, apples are now considered valuable in furnishing fiber to reduce cholesterol levels. ■

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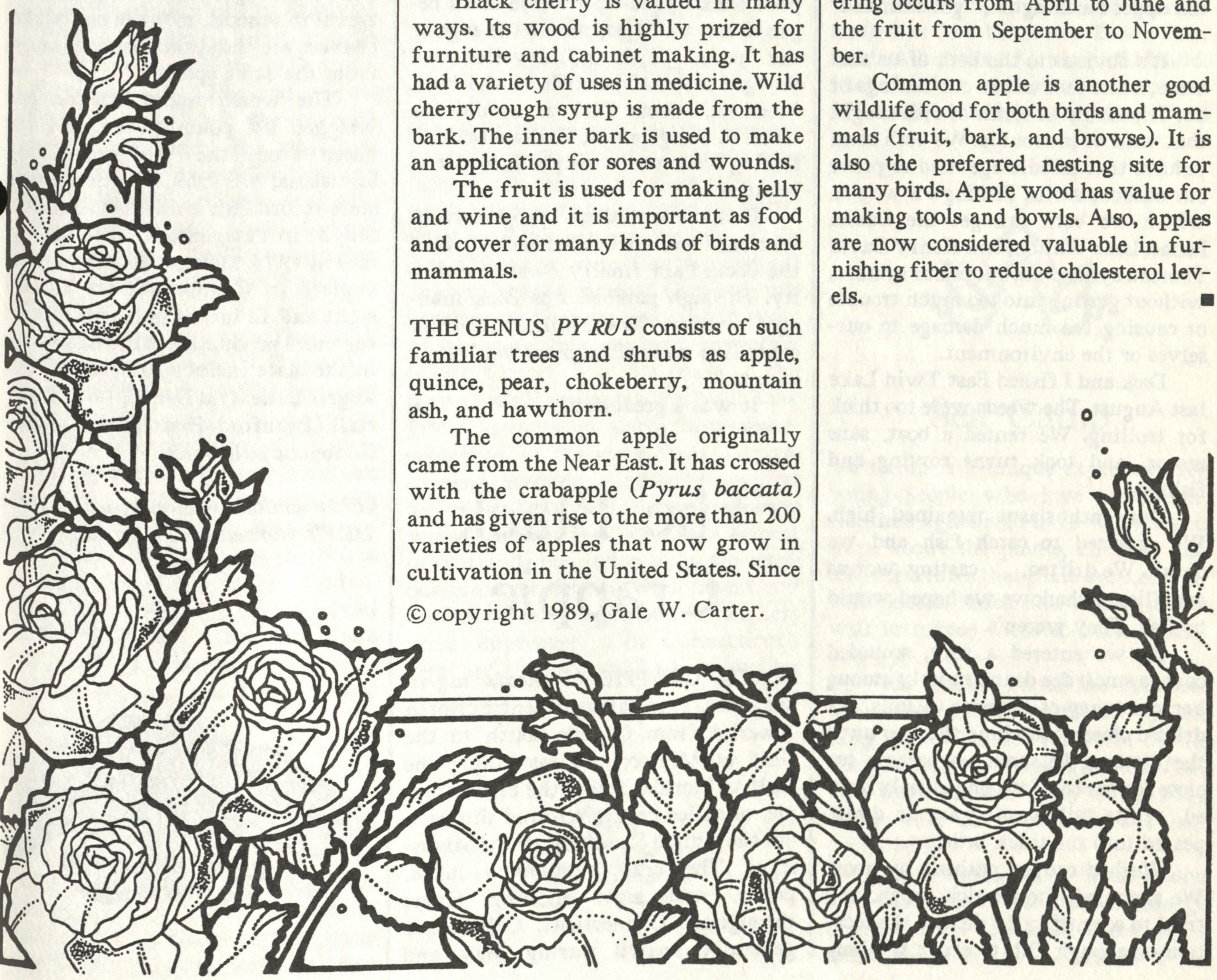


Fish Stories

A Fine Mess

by
Michael D. Klein

Dick Livingston and I see each other a lot during the workweek. Each summer we manage to fish at least five or six times together.

Last season, we "got skunked" together on a small bass pond in Simsbury, "got skunked" trout fishing on the upper Farmington, "got skunked" . . .

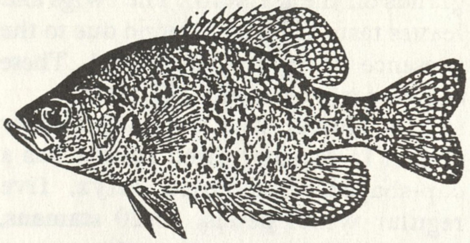
It's obvious to the both of us that were we to rate either our outings or our friendship in terms of fish caught that we'd be in trouble. We both seem to have that middle-age need to prove our outdoor skills. Fishing's a way in which we both can get the Daniel Boone, Issac Walton, and Henry David Thoreau syndromes out of our systems without getting into too much trouble or causing too much damage to ourselves or the environment.

Dick and I fished East Twin Lake last August. The weeds were too thick for trolling. We rented a boat, sans motor, and took turns rowing and fishing.

Our enthusiasm remained high. We expected to catch fish and we didn't. We drifted, casting worms and flies at shadows we hoped would be fish. They weren't.

As we entered a tiny, secluded cove, a small doe drank quietly among her sanctuary of lakeside cattails. We drifted closer, watching the deer until the distance between us became too close for her comfort. She quietly bolted, white tail waving as she disappeared into the thick brush.

We had caught nothing by noon. We anchored, ate a quick lunch, and tried to scientifically deduce the location of enough fish to make the long ride, boat rental, and rowing worthwhile. By now, Dick was turning an unusual shade of red as the sun baked us in our aluminum boat. "One more hour and we're outta here."



We finally anchored off an outcropping of small tree stumps and lily pads. Dick rigged-up a worm and I began to cast small poppers to the edge of the "pads." "Fish on," I yelled as I brought a small panfish to the boat. "Fish on," from Dick as he did the same. In one glorious, furious hour of fishing we landed a couple dozen little beauties.

Dick's sunburn progressively worsened and we headed back toward the dock. Pain finally overcame sanity. Through parched lips Dick managed to utter, "Well, Mike, this is another fine mess of crappies you've got us into."

It was a great day. ■

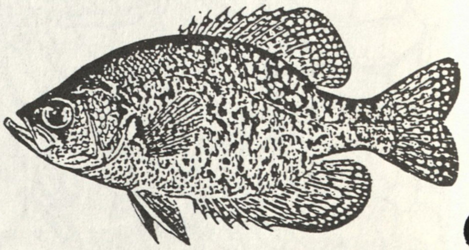
The Black Crappie

BLACK CRAPPIE (*Pomoxis nigromaculatus*) are native to central North America from Canada south to the Gulf of Mexico; and east along the Gulf to Florida. Today the black crappie, or calico bass, are found throughout the United States east of the Mississippi. The crappie inhabits lakes, ponds, and slow moving rivers throughout Connecticut. Calico bass generally spawn during May and June. Nests are constructed by fanning out a depression in a sandy or fine gravel bottom in one to three feet of water. Young calico bass feed largely on zooplankton (microscopic animals); adults travel in schools and feed on zooplankton, insect larvae, and small fish.

Black crappie are generally found in areas with abundant vegetation or man-made structures. Most anglers fish around weed beds, docks, submerged stumps, and particularly around brush piles. Crappie are generally caught by using small spinning lures, small plastic worms, or jigs; or by bait fishing with small minnows. Light-weight spinning tackle is preferred as these fish are not known for their fighting abilities. Crappie tend to travel in schools, so when one is taken chances are that others may be caught from the same spot.

The world record black crappie weighed six pounds even, and was taken from the Westwego Canal, Louisiana, in 1969. The Connecticut state record fish is a four-pound calico caught in Patagansett Lake (East Lyme) in 1974. Most calico bass taken by anglers in Connecticut are between eight and 12 inches in length. Some of the more productive calico bass waters in the state include Patagansett Lake, Rogers Lake (Old Lyme), Lake Saltonstall (Branford/East Haven), and the Connecticut River.

(*This article was prepared by the DEP's Bureau of Fisheries.*) ■



The Bulletin Board

Dinosaur State Park

The following events are scheduled at Dinosaur State Park in Rocky Hill:

"Nature Trail Days" will take place on Saturday and Sunday, May 6 and 7, from 10:00 a.m. to 4:00 p.m.

Welcome spring on Dinosaur State Park's nature trails. Join park volunteers and staff for guided walks and programs throughout the day. Topics will include "Signs of Spring," "Wild Edibles," and "Amphibians." Call the Park at (203) 529-8423 for details.

Special Program: Saturday, May 6 only, 1:00 p.m., "Collecting, Studying, and Enjoying Insects" by Jane O'Donnell, Invertebrate Collection Manager, University of Connecticut.

Take a fascinating tour through the insect world with Ms. O'Donnell, as she explores New England natives and tropical rain forest species with slides and specimens. She will also share tips on starting a collection, and ways to enjoy these diverse animals.

Admission: Free with Exhibit Center admission: $1.00 for adults, $.50 for children 6-17 years, 5 and under are free.

"International Museum Day" will take place on Thursday, May 18, 1989, from 9:00 a.m. to 4:30 p.m. and 6:00 p.m. to 8:00 p.m.

Museums are more than a wonderful amenity to the quality of our lives; they also have significant educational, research, and economic importance. We will celebrate "our" day with free admission, guided nature walks, films, slide shows, and special evening hours. Call Dinosaur State Park at 529-8423 for the schedule of programs. Admisison is free on May 18, only.

"Return of the Pterosaurs" will take place on Saturday, May 20, 1989 from 10:00 a.m. to 4:00 p.m.

A special day dedicated to those bizarre flying reptiles of the Mesozoic Era -- the pterosaurs. Although the pterodactyls and other pterosaurs lived with the dinosaurs, they were *not* dinosaurs. Programs will include a lecture, films, guided trail walk, and exhibits to help people learn more about pterosaurs and flight. Our challenge to the public: Build a kite that looks like a pterosaur. Those interested in demonstrating their pterosaur kites at the Park on May 20 should contact Dinosaur Park at 529-8423.

Place: Dinosaur State Park, West Street, Rocky Hill, CT 06067, (203) 529-8423, exit 23, off I-91. ■

Wetlands Program

Recently, the state of Delaware sought guidance in the establishment of a new freshwater wetlands protection program by seeking input from the DEP's Wetland Management Program. Douglas Cooper, principal environmental analyst, shared some of Connecticut's experiences derived from over 15 years in the statewide wetland protection effort. Cooper was the guest of the Governor's Freshwater Wetlands Task Force Roundtable, comprising representatives of the agricultural, development, academic, and governmental sectors in Delaware. Numerous issues were discussed relative to the impact of wetlands regulation upon the various interests of both development and conservation. The roundtable members were impressed with Connecticut's "state of the art" wetlands protection program. ■

Birdcraft Museum

Enjoy a day of birdcrafts at a national historic site. For one small admissioin fee, see demonstrations and examples of bird carving, bird painting, bird photography, and more.

See live wild songbirds up close in demonstrations of bird banding, a research program carried out at the Birdcraft Museum. Enjoy Birdcraft itself, a little museum with a lot to see, and its vest-pocket sanctuary -- both ideal for children. Birdcraft is just minutes from downtown Fairfield and minutes from the Fairfield train station.

Birdcraft day will be on June 3, from 10 a.m. to 4 p.m. The Museum is located at 314 Unquowa Road, Fairfield. Admission: $2/adult, $1/child. For further information, phone 259-6305, or 259-0416. ■

Sea Camp

Sea Camp is a unique experience for young people who love the water. Children ages seven to 13 will see and learn about the plants, animals, and other creatures that share our Long Island Sound. Beach and marsh walks will introduce them to basic coastal ecology.

This summer marks the 11th season of Sea Camp, sponsored by the Long Island Sound Taskforce of the Oceanic Society. The program has four two-week sessions: July 3-14, July 17-28, July 31-August 11, and August 14-25.

Campers in each two-week session will swim and fish at local beaches, go on field trips to coastal areas, learn hands-on with instructors on a research vessel, set up aquaria, and canoe at Lake Lillinonah; and learn about each different environment. The Stamford Marine Center has excellent facilities that include an aquarium room, a scientific laboratory, classrooms, wet and dry specimens, and a library.

For more information contact Sea Camp – c/o The Long Island Sound Taskforce, 185 Magee Ave., Stamford, CT 06902. ■

New Fish Tank

by

Stephen Gephard
Fisheries Biologist
Bureau of Marine Fisheries

The DEP's Bureau of Fisheries received an unexpected but welcome gift in January when Donald Beebe of Granby donated a 300-gallon fish distribution tank. The tank, which fits on the back of a large pickup truck, was designed to transport trout from one location to another. A small gasoline engine and water pump circulate the water and provide aeration.

Beebe owned and operated the Salmon Brook Trout Hatchery in Granby for a number of years. The private hatchery raised trout that were sold to private clubs and landowners. Beebe closed the hatchery several years ago when he retired from his full-time job as a design engineer with Hamilton Standard. With the hatchery closed, Beebe had no use for the wooden tank, which he built himself, and he offered it to the DEP. Beebe stated that he hoped it would contribute to the management of the state's fishery resources. In accepting the gift, Robert A. Jones, director of the Bureau of Fisheries, expressed thanks and said that it was gratifying when the public volunteers to get involved in state projects.

Atlantic Salmon Project personnel delivered the tank to the marine fisheries office in Waterford where the well-constructed tank will be given a fresh coat of paint. The tank will probably be used in the transportation of alewives to streams targeted for alewife restoration, transporting Atlantic salmon fry from the Kensington State Salmon Hatchery to streams, and the collection and transportation of various species of wild fishes for educational and scientific sampling purposes. ■

Correction

The article on the Talcott Mountain Science Center in the February '89 issue of *Connecticut Environment* contained an error in regard to the Rainbow Dam Fishway. The Rainbow Dam Fishway is a facility that allows migrating fishes to pass from below a dam to above the dam. It is not a hatchery, where fish are raised for stocking. The DEP operates three hatcheries at Burlington, Plainfield, and Kensington. We regret that error. ■

Lifestyles

One of the great joys of working on *Connecticut Environment* is the very real sense of partnership there is with the readers. In a recent issue, we published a letter from Ms. Janet Hill of East Granby who suggested a regular column on things that every citizen might do to make the environment better. A number of people wrote in applauding that idea. In response to that letter, the following tips were sent in by Charles and Elaine Twardy of Darien. Hope you find something here that you can do right now to change your environmental lifestyle.

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1. We only buy milk and orange juice in cardboard containers (not plastic) which can be recycled.

2. We use one of these containers at the sink to put our wet garbage into. When full, we take it out to our compost cans. In the October 1988 issue of *Connecticut Environment*, there was an article on backyard composting, which we started, and I must say it is working just fine. Our shrubs, flower beds, and garden will benefit this spring. We use two 15-gallon black plastic cans and they will hold enough garbage during the year for a family of four. We thank you for that article.

3. Insist on paper bags when grocery shopping.

4. We have set aside a very small area in our garage with cardboard boxes to hold newspapers in one, all other paper trash in another, one for glass containers, and one for cans to be recycled at our local dump. People in our town can use the local landfill at no cost; it comes as a privilege when you buy a beach sticker.

5. We buy pump sprays, not aerosol that contributes to the ozone problem. Buy deodorants for personal and household use in solid forms, not sprays.

Thank you, Ms. Hill, for this good idea, and thank you, Mr. and Mrs. Twardy, for getting it started. Anyone else have any other tips? ■

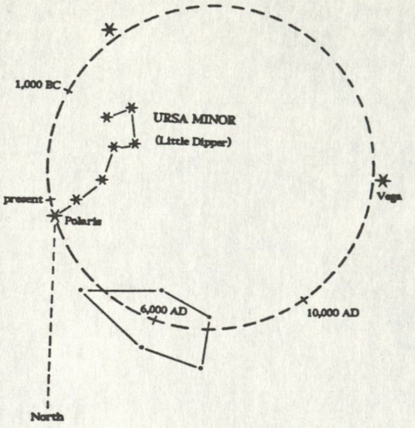
The Night Sky

by

Francine Jackson

WE'RE VERY LUCKY. Here, living in the northern part of the world, we have something our neighbors in Chile and Argentina don't have -- a guide to the pole. Many of you who are or were scouts may remember the instructions to "find the North Star and you will never be lost." The people in the southern hemisphere have no star to guide them to true north.

We often compare the earth and its daily rotation to a top, spinning about its axis. If we imagine the earth's axis as a rod going through the center of the earth, it would come to the surface at the North and South Poles. Extending that rod up from the North Pole, it would just scrape the surface of Polaris, our Pole Star. Actually, it would be a little off, about one half degree (just about the diameter of the full moon). For naked-eye observing, and for determining your cardinal points, that's not too bad.



We weren't always this lucky. A problem arises because of the fact that the Earth is tilted 23 1/2 degrees from the vertical. Although that tilt is always there, the Earth is "wobbling," or moving much like a top does when it slows down. What that means to us is the rod is inscribing a circle 47 degrees in the sky, meaning that Polaris hasn't always been so well placed. However, it will be for a while. In fact, about the year 2100 A.D., the North Celestial Pole will be at its closest approach to it, less than one half degree. It will then begin its slow advance toward one of our brightest summer stars, Vega, which will be our Pole Star in 15,000 A.D. This wobble effect, called precession, takes just under 26,000 years to go full circle.

Many believe that the Egyptian people designed the pyramids to conform to the direction of the North Pole at that time. The Descending Corridor of the Great Pyramid of Giza is aligned so that the star Thuban, in the body of Draco, the Dragon, was visible from deep within it. At that time of the Pyramid's construction, Thuban was the star closest to the North Pole. ■

Letters to the Editor

Please keep up *Connecticut Environment*. We need it to help our governments, yours and mine, to clean up the environment so cruelly polluted and never allow polluters to start again.

Don't you think that Mr. Carter's "Trailside Botanizer" should become a book? That collection is very readable and so easy for anyone to understand. Somehow, it seems we are out walking with him, appreciating the lives of these plants, trees, and flowers.

Lea Roback
Montreal, Canada

Mr. Carter informs us that he is "toying" with the idea of putting a book together. We'll keep you posted. Ed.

Your magazine on environmental affairs in Connecticut is a gem. As an environmentalist, I read every word. While all sections of the magazine are noteworthy, I especially enjoy Alan Levere's columns. This magazine is just another example of our excellent DEP. Keep up the great news of Connecticut's environmental concerns and progress.

Meada Ebinger
President
Quinnipiac Valley Audubon
Society

I just wanted to thank Ms. Penni Sharp for her wonderful articles that appear occasionally in *Connecticut Environment*. Although there are several articles in each issue that I find interesting, for some reason her articles always seem the most pleasant to read. Perhaps it's the way she describes things, the ease in which she can be read, or that I am intersted in things she writes about. I'm not sure but I know I enjoy them.

I live in an area surrounded by the woods and often go for walks out there. Her writing has helped open my eyes to many of the things around me.

Bob Wasicki
Middle Haddam

A wonderful publication. I especially enjoy the articles about the night sky by Francine Jackson. There is something for everyone, for every level of interest.

Nancy Kowalczyk
Middletown

Sure, sure, these writers are all good; nobody's denying that. But, the editor has something to do with that, too. Ed.

Endnote

We may understand this world in the following way:

The mouse is afraid of the cat; the cat is afraid of the dog; the dog is afraid of the lion; the lion is afraid of the elephant; and the elephant is afraid of the mouse.

Old Zen saying.

Connecticut Environment espouses simple virtues.

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